ENERGY STAR® Application for Certification

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86

ENERGY STAR ® Score[1]

100 Federal St.

Registry Name: 100 Federal St.
Property Type: Office
Gross Floor Area (ft²): 1,478,145
Built: 1970

For Year Ending: 02/28/2017[2]
Date Application Becomes Ineligible: 06/28/2017

1. The ENERGY STAR Score is based on total source energy. A score of 75 is the minimum to be eligible for the ENERGY STAR.
2. Applications must be submitted to EPA within 120 days of the Year Ending Date. The award is not final until approval is received from EPA.

Please use the *Licensed Professional's Guide to the ENERGY STAR ® for Commercial Buildings* for reference in completing this checklist (http://www.energystar.gov/lpguide).

Property & Contact Information

Property Address
100 Federal St.
100 Federal St.
Boston, Massachusetts 02110

Property ID: 3266613
Boston Energy Reporting ID: 0304410000
LEED US Project ID: 10526808

Property Owner
Boston Properties
_____
_____, ____ _____
(____)____-_____

Primary Contact
Stacey Lowell
NOT AVAILABLE
~~Arlington, VA 22201~~
617-896-7322
slowell@bostonproperties.com

1. Review of Whole Property Characteristics

Basic Property Information

1) **Property Name for Registry:** 100 Federal St. ☑ Yes ☐ No

Is this the official name to be displayed in the Registry of ENERGY STAR Certified Buildings and Plants?

If "No", please specify: _____

2) **Property Type:** Office ☑ Yes ☐ No

Is this an accurate description of the primary use of this property?

3) Location: ☑ Yes ☐ No

100 Federal St.
Boston, Massachusetts 02110

Is this correct and complete?

4) Gross Floor Area: 1,478,145 ft² ☑ Yes ☐ No

Does this represent the entire property? (i.e., no part of the building/property was excluded/subtracted from the total) If "no" please specify what space has been excluded.

5) Average Occupancy (%): (b) (4) ☑ Yes ☐ No

Is this occupancy percentage accurate for the entire 12 month period being assessed?

6) Number of Buildings: 1 ☑ Yes ☐ No

Does this number accurately represent all structures?

Notes:

Indoor Environmental Standards

1) Ventilation for Acceptable Indoor Air Quality ☑ Yes ☐ No

Does this property meet the minimum ventilation rates according to ANSI/ASHRAE Standard 62.1, Ventilation for Acceptable Indoor Air Quality?

2) Acceptable Thermal Environmental Conditions ☑ Yes ☐ No

Does this property meet acceptable thermal environmental conditions according to ANSI/ASHRAE Standard 55, Thermal Environmental Conditions for Human Occupancy?

3) Adequate Illumination ☑ Yes ☐ No

Does this property meet the minimum illumination levels as recommended by the Illuminating Engineering Society of North America (IESNA) Lighting Handbook?

Notes:

2. Review of Property Use Details

Office: Office-Occupied

This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

1) Gross Floor Area: 1,175,914

Is this the total size, as measured between the outside surface of the exterior walls of the building(s)? This includes all areas inside the building(s) such as: occupied tenant areas, common areas, meeting areas, break rooms, restrooms, elevator shafts, mechanical equipment areas, and storage rooms. Gross Floor Area should not include interstitial plenum space between floors, which may house pipes and ventilation. Gross Floor Area is not the same as rentable, but rather includes all area inside the building(s). Leasable space would be a sub-set of Gross Floor Area. In the case where there is an atrium, you should count the Gross Floor Area at the base level only. Do not increase the size to accommodate open atrium space at higher levels. The Gross Floor Area should not include any exterior spaces such as balconies or exterior loading docks and driveways.

☑ Yes ☐ No

NOTE: *This use detail was changed during the year ending 02/28/2017. The value above represents a time-weighted average of the values over this timeframe. The following table outlines the history of the changes resulting in the value displayed above:*

Timeframe	Value
03/01/2016 – 03/31/2016	1,199,040 ft²
04/01/2016 – 02/28/2017	1,173,768 ft²

2) Weekly Operating Hours: (b) (4)

Is this the total number of hours per week that the property is occupied by the majority of the employees? It does not include hours when the HVAC system is starting up or shutting down, or when property is occupied only by maintenance, security, cleaning staff, or other support personnel. For properties with a schedule that varies during the year, use the schedule most often followed.

☑ Yes ☐ No

3) Number of Workers on Main Shift: (b) (4)

Is this the total number of workers present during the primary shift? This is not a total count of workers, but rather a count of workers who are present at the same time. For example, if there are two daily eight hour shifts of 100 workers each, the Number of Workers on Main Shift value is 100. Number of Workers on Main Shift may include employees of the property, sub-contractors who are onsite regularly, and volunteers who perform regular onsite tasks. Number of Workers should not include visitors to the buildings such as clients, customers, or patients.

☑ Yes ☐ No

4) Number of Computers: (b) (4)

Is this the total number of computers, laptops, and data servers at the property? This number should not include tablet computers, such as iPads, or any other types of office equipment.

☑ Yes ☐ No

5) Percent That Can Be Heated: (b) (4)

Is this the total percentage of the property that can be heated by mechanical equipment?

☑ Yes ☐ No

6) Percent That Can Be Cooled: (b) (4)

☑ Yes ☐ No

Is this the total percentage of the property that can be cooled by mechanical equipment? This includes all types of cooling from central air to individual window units.

Notes:

Parking: Garage

This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

1) Open Parking Lot Size: 0 ft²

Is this the total area that is lit and used for parking vehicles? Open Parking Lot Size refers specifically to open area, which may include small shading covers but does not include any full structures with roofs. Parking lot size may include the area of parking spots, lanes, and driveways.

☑ Yes ☐ No

2) Partially Enclosed Parking Garage Size: 0 ft²

Is this the total area of parking structures that are partially enclosed? This includes parking garages where each level is covered at the top, but the walls are partially or fully open.

☑ Yes ☐ No

3) Completely Enclosed Parking Garage Size: 73,345 ft²

Is this the total area of parking structures that are completely enclosed on all four sides and have a roof? This includes underground parking or fully enclosed parking on the first few stories of a building.

☑ Yes ☐ No

4) Supplemental Heating: No

Is this the correct answer to whether your parking garage has Supplemental Heating, which is a heating system to pre-heat ventilation air and/or maintain a minimum temperature during winter months?

☑ Yes ☐ No

Notes:

Office: (b) (4) Space

This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

★ **1) Gross Floor Area:** 228,748

Is this the total size, as measured between the outside surface of the exterior walls of the building(s)? This includes all areas inside the building(s) such as: occupied tenant areas, common areas, meeting areas, break rooms, restrooms, elevator shafts, mechanical equipment areas, and storage rooms. Gross Floor Area should not include interstitial plenum space between floors, which may house pipes and ventilation. Gross Floor Area is not the same as rentable, but rather includes all area inside the building(s). Leasable space would be a sub-set of Gross Floor Area. In the case where there is an atrium, you should count the Gross Floor Area at the base level only. Do not increase the size to accommodate open atrium space at higher levels. The Gross Floor Area should not include any exterior spaces such as balconies or exterior loading docks and driveways.

☑ Yes ☐ No

NOTE: *This use detail was changed during the year ending 02/28/2017. The value above represents a time-weighted average of the values over this timeframe. The following table outlines the history of the changes resulting in the value displayed above:*

Timeframe	Value
03/01/2016 – 03/31/2016	205,622 ft²
04/01/2016 – 02/28/2017	230,894 ft²

★ **2) Weekly Operating Hours:** (b) (4)

Is this the total number of hours per week that the property is occupied by the majority of the employees? It does not include hours when the HVAC system is starting up or shutting down, or when property is occupied only by maintenance, security, cleaning staff, or other support personnel. For properties with a schedule that varies during the year, use the schedule most often followed.

☑ Yes ☐ No

★ **3) Number of Workers on Main Shift:** (b) (4)

Is this the total number of workers present during the primary shift? This is not a total count of workers, but rather a count of workers who are present at the same time. For example, if there are two daily eight hour shifts of 100 workers each, the Number of Workers on Main Shift value is 100. Number of Workers on Main Shift may include employees of the property, sub-contractors who are onsite regularly, and volunteers who perform regular onsite tasks. Number of Workers should not include visitors to the buildings such as clients, customers, or patients.

☑ Yes ☐ No

★ **4) Number of Computers:** (b) (4)

Is this the total number of computers, laptops, and data servers at the property? This number should not include tablet computers, such as iPads, or any other types of office equipment.

☑ Yes ☐ No

★ **5) Percent That Can Be Heated:** (b) (4)

Is this the total percentage of the property that can be heated by mechanical equipment?

☑ Yes ☐ No

★ **6) Percent That Can Be Cooled:** (b) (4)

Is this the total percentage of the property that can be cooled by mechanical equipment? This includes all types of cooling from central air to individual window units.

☑ Yes ☐ No

Notes:

(b) (4)

This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

1) Gross Floor Area: (b) (4)

Is this the total size, as measured between the outside surface of the exterior walls of the building(s)? This includes all areas inside the building(s) such as: occupied tenant areas, common areas, meeting areas, break rooms, restrooms, elevator shafts, mechanical equipment areas, and storage rooms. Gross Floor Area should not include interstitial plenum space between floors, which may house pipes and ventilation. Gross Floor Area is not the same as rentable, but rather includes all area inside the building(s). Leasable space would be a sub-set of Gross Floor Area. In the case where there is an atrium, you should count the Gross Floor Area at the base level only. Do not increase the size to accommodate open atrium space at higher levels. The Gross Floor Area should not include any exterior spaces such as balconies or exterior loading docks and driveways.

☑ Yes ☐ No

Notes:

(b) (4)

This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

1) Gross Floor Area: (b) (4)

Is this the total size, as measured between the outside surface of the exterior walls of the building(s)? This includes all areas inside the building(s) such as: occupied tenant areas, common areas, meeting areas, break rooms, restrooms, elevator shafts, mechanical equipment areas, and storage rooms. Gross Floor Area should not include interstitial plenum space between floors, which may house pipes and ventilation. Gross Floor Area is not the same as rentable, but rather includes all area inside the building(s). Leasable space would be a sub-set of Gross Floor Area. In the case where there is an atrium, you should count the Gross Floor Area at the base level only. Do not increase the size to accommodate open atrium space at higher levels. The Gross Floor Area should not include any exterior spaces such as balconies or exterior loading docks and driveways.

☑ Yes ☐ No

Notes:

(b) (4)

This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

1) Gross Floor Area (b) (4)

Is this the total size, as measured between the outside surface of the exterior walls of the building(s)? This includes all areas inside the building(s) such as: occupied tenant areas, common areas, meeting areas, break rooms, restrooms, elevator shafts, mechanical equipment areas, and storage rooms. Gross Floor Area should not include interstitial plenum space between floors, which may house pipes and ventilation. Gross Floor Area is not the same as rentable, but rather includes all area inside the building(s). Leasable space would be a sub-set of Gross Floor Area. In the case where there is an atrium, you should count the Gross Floor Area at the base level only. Do not increase the size to accommodate open atrium space at higher levels. The Gross Floor Area should not include any exterior spaces such as balconies or exterior loading docks and driveways.

☑ Yes ☐ No

Notes:

3. Review of Energy Consumption

Data Overview

Site Energy Use Summary		**National Median Comparison**	
Electric - Grid (kBtu)	(b) (4)	National Median Site EUI (kBtu/ft²)	115.1
District Steam (kBtu)		National Median Source EUI (kBtu/ft²)	268.2
Total Energy (kBtu)	104,918,651.4	% Diff from National Median Source EUI	-38.3%
Energy Intensity		**Emissions** (based on site energy use)	
Site (kBtu/ft²)	71	Greenhouse Gas Emissions (Metric Tons CO2e)	8,129.6
Source (kBtu/ft²)	165.4		

Power Generation Plant or Distribution Utility:
NSTAR Co [Eversource Energy]

Note: All values are annualized to a 12-month period. Source Energy includes energy used in generation and transmission to enable an equitable assessment.

Summary of All Associated Meters

The following meters are associated with the property, meaning that they are added together to get the total energy use for the property. Please see additional tables in this checklist for the exact meter consumption values.

Meter Name	Fuel Type	Start Date	End Date	Associated With
(b) (4)	(b) (4)	01/01/2013	In Use	(b) (4)
		01/01/2015	In Use	
		01/01/2013	In Use	
	District Steam	01/01/2005	In Use	100 Federal St.
	Electric	01/01/2005	In Use	100 Federal St.

Total Energy Use

Do the meters shown above account for the total energy use of this property during the reporting period of this application?

☑ Yes ☐ No

Additional Fuels

Do the meters above include all fuel *types* at the property? That is, no additional fuels such as district steam, generator fuel oil have been excluded.

☑ Yes ☐ No

On-Site Solar and Wind Energy

Are all on-site solar and wind installations reported in this list (if present)? All on-site systems must be reported.

☑ Yes ☐ No

Notes:

(b) (4)

(b) (4) **(kWh (thousand Watt-hours))**

Associated With: (b) (4)

Start Date	End Date	Usage
03/01/2016	03/31/2016	(b) (4)
04/01/2016	04/30/2016	
05/01/2016	05/31/2016	
06/01/2016	06/30/2016	
07/01/2016	07/31/2016	
08/01/2016	08/31/2016	
09/01/2016	09/30/2016	
10/01/2016	10/31/2016	
11/01/2016	11/30/2016	
12/01/2016	12/31/2016	
01/01/2017	01/31/2017	
02/01/2017	02/28/2017	
	Total Consumption (kWh (thousand Watt-hours)):	
	Total Consumption (kBtu (thousand Btu)):	

Total Energy Consumption for this Meter

☑ Yes ☐ No

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

(b) (4) Meter: (b) (4) (kWh (thousand Watt-hours))

Associated With: (b) (4)

Start Date	End Date	Usage
03/01/2016	03/31/2016	(b) (4)
04/01/2016	04/30/2016	
05/01/2016	05/31/2016	
06/01/2016	06/30/2016	
07/01/2016	07/31/2016	
08/01/2016	08/31/2016	

Start Date	End Date	Usage
09/01/2016	09/30/2016	(b) (4)
10/01/2016	10/31/2016	
11/01/2016	11/30/2016	
12/01/2016	12/31/2016	
01/01/2017	01/31/2017	
02/01/2017	02/28/2017	
	Total Consumption (kWh (thousand Watt-hours)):	
	Total Consumption (kBtu (thousand Btu)):	

Total Energy Consumption for this Meter

☑ Yes ☐ No

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

(b) (4) (b) (4) Meter: (b) (4) (kWh (thousand Watt-hours))

Associated With: (b) (4)

Start Date	End Date	Usage
03/01/2016	03/31/2016	(b) (4)
04/01/2016	04/30/2016	
05/01/2016	05/31/2016	
06/01/2016	06/30/2016	
07/01/2016	07/31/2016	
08/01/2016	08/31/2016	
09/01/2016	09/30/2016	
10/01/2016	10/31/2016	
11/01/2016	11/30/2016	
12/01/2016	12/31/2016	
01/01/2017	01/31/2017	
02/01/2017	02/28/2017	

Total Consumption (kWh (thousand Watt-hours)):	(b) (4)
Total Consumption (kBtu (thousand Btu)):	

Total Energy Consumption for this Meter

☑ Yes ☐ No

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

District Steam Meter: (b) (4) (KLbs. (thousand pounds))

Associated With: 100 Federal St.

Start Date	End Date	Usage
02/03/2016	03/02/2016	(b) (4)
03/03/2016	04/01/2016	
04/01/2016	05/03/2016	
05/04/2016	06/06/2016	
06/07/2016	06/30/2016	
07/01/2016	08/02/2016	
08/02/2016	08/31/2016	
08/31/2016	09/30/2016	
10/01/2016	10/31/2016	
11/01/2016	11/30/2016	
12/01/2016	12/31/2016	
01/01/2017	01/31/2017	
02/01/2017	02/28/2017	

Total Consumption (KLbs. (thousand pounds)):	
Total Consumption (kBtu (thousand Btu)):	

Total Energy Consumption for this Meter

☑ Yes ☐ No

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

Electric Meter: E - Electric Meter (b) (4) (kWh (thousand Watt-hours))

Associated With: 100 Federal St.

Start Date	End Date	Usage	Green Power?
03/01/2016	03/31/2016	(b) (4)	No
04/01/2016	04/30/2016		No
05/01/2016	05/31/2016		No
06/01/2016	06/30/2016		No
07/01/2016	07/31/2016		No
08/01/2016	08/31/2016		No
09/01/2016	09/30/2016		No
10/01/2016	10/31/2016		No
11/01/2016	11/30/2016		No
12/01/2016	12/31/2016		No
01/01/2017	01/31/2017		No
02/01/2017	02/28/2017		No

Total Consumption (kWh (thousand Watt-hours)): (b) (4)

Total Consumption (kBtu (thousand Btu)):

Total Energy Consumption for this Meter

☑ Yes ☐ No

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

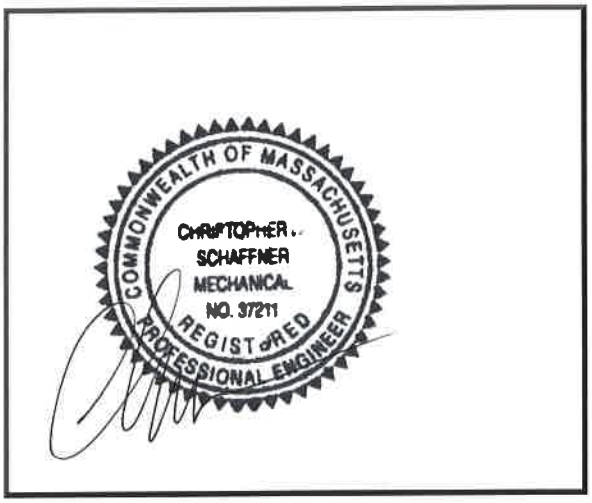
4. Signature & Stamp of Verifying Licensed Professional

CHRISTOPHER SCHAFFNER (Name) visited this site on 5/12/17 (Date). Based on the conditions observed at the time of the visit to this property, I verify that the information contained within this application is accurate and in accordance with the Licensed Professional Guide.

Signature: _____ Date: 5/12/17

Licensed Professional
License: 37211 in MA

Christopher Schaffner
54 Junction Square Drive
Concord, MA 01742
978-369-8978
chris@greenengineer.com



Professional Engineer Stamp

NOTE: When applying for the ENERGY STAR, the signature of the Verifying Professional must match the stamp.

5. Signatory Agreement

I hereby nominate the above described property for award of the ENERGY STAR. I have provided a copy of the Licensed Professionals Guide to the ENERGY STAR for Commercial Buildings to our Licensed Professional (LP) for reference. As documented by the above checklist, this property meets the conditions necessary to qualify as ENERGY STAR. I am submitting this application within four months of the Year Ending Date (February 28, 2017) used to generate the application. I will assist EPA, if requested, in verifying any data included in this application. Furthermore, I agree to associate the ENERGY STAR logo only with this property and to adhere to the ENERGY STAR Identity Guidelines.

Signature (must be a direct employee of the building owner/manager) _____ Date: 5/12/17

Signatory Name: Stacey Lowell

Property Owner: Boston Properties

The government estimates the average time needed to fill out this form is 6 hours (includes the time for entering energy data, Licensed Professional facility inspection, and notarizing the SEP) and welcomes suggestions for reducing this level of effort. Send comments (referencing OMB control number) to the Director, Collection Strategies Division, U.S., EPA (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460